Research Items

1.

Title: Mitigating the risk of misinterpretation of intent of launching a conventional armed intercontinental ballistic missile.
Description: The DoD is considering developing and fielding a conventionally armed ICBM to provide the nation a prompt limited strike capability against very high value targets. The weapon is intended to bridge the capability gap between the very prompt and accurate nuclear-armed ICBMs or SLBMs and conventional weapons delivered by aircraft or Navy ships which are range and time constrained (depending on launch platform location). Possible launch platforms or locations include existing space launch or ICBM missile complexes, SSBNs, or yet to be developed forward operating locations. Warheads under consideration include 500-2000 lbs of conventional explosives, cluster bomb sub munitions, or inert slugs varying from several hundred weighing a few ounces to a single large mass. Possible targets might include terrorist training camps, missiles on an exposed launch platform, a critical power node, a terrorist leadership meeting, a tunnel opening in hostile nation's missile staging complex, or even the lid of an ICBM silo. Target type, confidence in the accuracy of target location, target duration, collateral damage, and type of warheads available would be prime considerations in determining the suitability of using a conventionally armed ballistic missile. A significant concern is the missile launch or reentry vehicle/warhead could be detected by a foreign nation and misinterpreted as nuclear attack upon their nation. A misinterpretation scenario might be Russia detects or partially detects a missile launch and due to incorrect or incomplete information on missile impact area, or short detection time dictates a quick decision, believes it is under attack when the intended target is terrorist leaders meeting in one of the surrounding nations.
Objective: Identify possible solutions eliminating or minimizing the risk of misinterpreting the launch of a conventional armed ballistic missile as a nuclear attack.
Solutions might be technical, political, procedural, or a combination of several processes.
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2.

Title: Integrating Air and Missile Defense
Description: Currently, there is no COCOM assigned the UCP mission of cruise missile defense, nor is there any one agency tasked to do the developmental work for CMD capabilities and architecture integration. CMD requires capabilities that operate in the same regime as air defense and counterair. Should all capabilities be fused instead of requiring stovepiped systems and C2 architectures to defeat IAMD threats?
Objectives: Determine if integration of air and missile defense (ballistic and cruise) make sense, and if so, how do we organize to do it?
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3.

Title: Cruise Missile Defense Responsibility
Description: Currently, there is no COCOM assigned the UCP mission of cruise missile defense, nor is there any one agency tasked to do the developmental work for CMD capabilities and architecture integration. All Services are building systems that have a piece of CMD, but no one activity is responsible for integration or reduction of gaps and seams. In addition, as missile defense capabilities increase, there is a growing realization that scenarios exist whereby missile threats may cross AORs, yet require COCOMs to contribute sensors, weapons and C2 in real-time to defend another AOR. Decision making in this forum is growing increasingly complex.
Objectives: Determine who should be responsible for cruise missile defense and determine if global missile defense be controlled and executed in a centralized or decentralized manner?

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4.

Title: Information sharing with Allies
Description: POTUS guidance directs DoD to share information with friends and allies (esp. UK and AUS) on a broader basis than we have in the past. However, National Disclosure Policy and numerous bureaucratic processes preclude this sharing. UK embedded officers working in COCOMs, for instance, do not have unfettered access to the SIPRNET. How do we most efficiently achieve the POTUS goals?
Objectives: Determine what is the most efficient method to conduct full, unrestricted information sharing with allies? Are there technological options to allow access to the SIPRNET and SINET?
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5.

Title: Organizational relationships to facilitate persistent ISR
Description: The UCP designates that one of STRATCOM's responsibilities is to "Plan, integrate, and coordinate intelligence, surveillance, and reconnaissance (ISR) in support of strategic and global operations, as directed." As a result of this and as part of USD (I)'s Reforming Defense Intelligence (RDI) Initiative, several organizations are in the process of standing up, including JFCC-ISR (a functional component command of STRATCOM) as well as Joint Intelligence Operations Centers (JIOCs) at each of the COCOMs (less STRATCOM) and a Defense JIOC. All these organizations are embryonic with their CONOPS still in the draft stages. As a result, the current organizational relationships lack clarity and could promote "stovepiped" operations.

Objectives: Within the framework of the JIOC/DJIOC/JFCC-ISR structure, what are the optimal relationships between these organizations and what is the optimal organization within the JIOC to facilitate persistent ISR to best meet COCOM requirements?
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6.

Title: Management of ISR assets
Description: STRATCOM, as the lead COCOM for planning, integrating and coordinating ISR within DoD, has identified that the ISR enterprise should be: Responsive, assured, agile, persistent, integrated/fused, actionable, survivable, globally managed, capacity, deep. Currently, overhead imagery, as one part of the ISR enterprise, is not always available when and where it is needed by the warfighter. Current management processes do not facilitate efficient global ISR management to meet COCOM requirements.
Objectives: What is the most effective and efficient method of managing Title 10 and Title 50 ISR assets?
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7.

Title: Electronic Warfare and Network Warfare – Are they merging?
Description: Research should focus on answering that question and lead to offering recommendations on how to improve capabilities if so, research should show successes incurred, if any, as the disciplines have merged and recommend clear avenues and organizations to shatter any stovepipes uncovered.
Objectives: Transformational thinking to improve network/electronic warfare
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8.

Title: Integration of Missile Warning and Missile Defense
Description: Missile Warning systems have been supporting strategic requirements (Integrated Tactical Warning and Attack Assessment or ITW/AA) and theater requirements to Combatant Commanders for many years. The Missile Defense Agency (MDA) is modifying radars (e.g., PAVE PAWS (Beale) and BMEWS (Thule)) and fielding new systems (e.g., FBX-T and sea-based X-band) to fulfill Integrated Missile Defense requirements. The modifications to current radars are impacting their ITW/AA certifications and the new systems are not being integrated into the Theater Event System (TES) architecture before being fielded. The missile warning and missile defense communities appear to be working within separate architectures and certification

standards (stovepipe mentality) by focusing on very specific requirements in their own fields as opposed to any integration planning efforts to synergistically combine both capabilities.
Objective: Perform a critical analysis of missile warning systems and architectures (ITW/AA and TES) and missile defense systems and architectures. Determine what changes are necessary for the missile warning architecture to technically support missile warning and missile defense integration. Determine if doctrine is appropriate and being supported to enable efficient transition to an integrated missile warning/missile defense system with regard to operations and sustainment. Determine if a roadmap needs to be developed to integrate warning and defense and how doctrine should be created and/or changed to necessitate such action.
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9.

Title: Multi-Level Security (MLS) Considerations in a "Need to Share" vs. a "Need to Know" Net-centric (NC) Environment:
Description: We are moving away from a need to know security environment to a need to share environment.
Objectives: This subject should address the security issues that will be encountered with the transition from a "need to know" environment to a "Need to Share" net-centric Operating concept. Of particular interest is the ability to make available differing levels of information classification for the diversity of users and their authorizations on the Global Information Grid (GIG).
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10.

Title: Joint Capability Areas (JCA) – A transformational approach to Combatant Commander Mission success
Description: How the use of JCA's can and will transform training, readiness, planning, risk analysis, and advocacy of future requirements through the use of a capability based lexicon that cuts across traditional Combatant Commander stovepipes…linking current operational deficiencies with risk analysis to future requirements to support the National Military Strategy.
Objectives: Discovery of integration and synchronization techniques of capability based processes, education of capability based strategic thinking, transformation of the current Universal Joint Task List (UJTL) to provide capabilities based options for Combatant Commander decision making.
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11.

Title: Military Deception and its Cost Effectiveness to the Combatant Commander
Description: Of all IO capabilities (Electronic Warfare, Computer Network Operations, Psychological Operations, Military Deception (MILDEC), and Operations Security) and kinetic weapons systems, Military Deception provides the Combatant Commander with the most cost effective way to achieve battlefield dominance. When utilizing MILDEC you are eight times more likely to achieve surprise, and when you achieve surprise you are four times more likely to win the engagement (Dr. Barton Whaley, STRATAGEM Deception and Surprise in War, 1969). If Combatant Commanders can establish such favorable odds with the use of deception operations, then why is MILDEC often avoided and under utilized? MILDEC can provide the Combatant Commander with an asymmetric advantage, be a force multiplier, and is a relatively inexpensive warfighting capability. The Director of Information Operations at OSD, Mr. Giesler states, "The Combatant Commander can have tremendous strategic effect with very low cost."
Objective: To increase MILDEC awareness among Senior Military leadership, and advocate for its future use as a force multiplier. Thinking in terms of monetary cost, it's more cost effective to have the adversary destroy decoys (i.e. decoy cost $10K, vice actual weapon systems costing in the millions to billions). In terms of forces cost, emulating where our force is and diverting their attention to a false location can save hundreds of lives. In this era of dwindling budgets, and continued reduction in forces, Combatant Commanders are continually searching for capabilities that will allow them to get the most of their budget and personnel. This research will be vital to demonstrate to Combatant Commanders the applicability and significance of the use of MILDEC at all levels; Tactical, Operational, and Strategic.
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12.

Title: Effects of Avian Flu pandemic on the Global Information Grid
Description: Synopsis: If Avian Influenza (Bird Flu) should reach a pandemic level, companys may encourage employees to reduce their chances of contact by working staggered shifts or telecommuting. One number cited by authorities is that at its worst point, a pandemic may lead to a 30% to 50% absentee rate, in addition to those employees asked to telecommute.
Question: Will having too many users trying to access health information sources, government sites, and news sites create a tipping point that resembles a 'Denial of Service' attack? If so, then with so many more people staying at home, whether mildly ill or telecommuting, at what point will the 'Information Highway' grind to a halt due to too much traffic?
Objectives:
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